

UK'S BRIGHTEST MAGAZINE FOR THE COMMODORE 64

# YOUR 64

& VIC 20

MARCH 1985

95p No. 7

GAME OF THE MONTH

## RAID OVER MOSCOW

Two Tribes Go To War!

COMMUNICATIONS

## COMPUNET VS MICRONET

Battle Of The Networks!

WORDPROCESSORS

## WRITE ON!

One Of The Best?

TALKIN' 64

## THE MINTER VIEW!

Life With The Llamas

# MUTANT MONTY




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# Y&A MENU

## Y&A SPECIAL WORD PROCESSORS

**Getting Your Word's Worth** If the advertisements are to be believed, a wordprocessor will improve your productivity, make writing a pleasure instead of a chore and allow you to create professional-looking letters and documents.

But what exactly is it, a wordprocessor, and how do you choose the right one for you? Y&A examines six best-selling packages, comparing features, ease of use, quality of documentation and value for money. Don't buy a wordprocessor without reading this first. Valerie Buckle and Ruth Roweth

41

WIN! WIN! WIN!

63

**Competition** Ghostbuster makes you feel good and so should our competition: 'cos we've got 100 copies to give away! Not to mention a 1541 disk drive and other goodies.

PROGRAMMING

53

**Scratchpad** Add medium-resolution plotting to your 64's graphics capabilities with our easy to use listing! Also the rest of the demo routines for last month's scrolling routine. Mike Hart and Brian Ruxbury

61

**Keyboard Kapers** Exercise your grey cells with our 30 thoughts and crosses program! R Blunt

REVIEW

22

**CompuNet vs. Microsoft**

Everyone seems to be getting on-line these days, but which network offers more to 64 users? We put Microsoft and CompuNet to the test. Allen Webb

GAMES

29

**Action Replay** Fight

herdic wars, practice a spot of social climbing in Hampstead, steer

clear of the Dungeons of Ill and, well, Dr's Baby could only have been produced by Bad Taste Software. Steve Malone



36

**Raid Over Moscow** Nuking

Moscow might not be the most tasteful plot to a game, but it certainly was in the playability stakes.



CORE MATERIAL

**Open Access** Page 3  
If it is happening to the 64, it is an Open Access

**Miscell** Page 11  
More support for an upgraded 64, a whole host of games from the Jet Set Willy bug - you and it.

**Class 20** Page 14  
Shoulders to arms is at number 10, but International Football is still at number 1! There's no short rigging here, your votes are all that count.



**Ticker 64** Page 15  
Why is that dear Minter so obsessed with small boy products? Not like in the nice school uniforms.

**Back Issues** Page 16  
Both issues 1 and 2 are already sold out - so get your orders in fast!

**Subscriptions** Page 16  
We'll turn you to stone without.

FREE READER

SERVICE

**Classified ads** Page 64  
Sell your unwanted gear, pick up a bargain, swap some software - our readers classifieds are free!

**Order Illustration by**  
Mark Widdowson



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Tuesdays and Thursdays

2pm-6pm only, please

# DRIVE A HARD SOFT BARGAIN.



Buffalo Round Up



Spacial Billiards



Dancing Monster



Save Me Brave Knight



Photon Reflection

It's not every day you get offered a bargain as good as this five games in one package for just £9.99

And not just any old games, but really outstanding exciting and unusual ones

No other games collection comes anywhere near the Fantasy Five. Each game is unique and demands very different talents of the player

In Buffalo Round Up you can see how you'd have made out as a wrangler in the Wild West. You have to be both skilful and fast to corral the buffalo before they stampede off into the desert.

Then you can test your skills in three unique variations of the traditional game of billiards with Spacial Billiards. It's billiards in 3-D in a gravity free room!

In Dancing Monster a wicked wizard has cast a spell on a beautiful princess. To stop his evil you have to

shoot off his horns, eyes, nose, ears and so on while he continues to dance. Defeat the monster and you'll be astonished by his transformation into ?

Then you can don your shining armour and rescue your true love from her evil captors castle. Save Me Brave Knight is full of evil monsters and fire-breathing dragons, and is exceptional in its graphic style

It's the sound a little down-to-earth how about Photon Reflection where aliens make the final assault on



**FIVE GAMES  
FOR ONLY £9.99**

your galaxy. As the Supreme Commander you must capture their Mother Ship. It's a strategically demanding game with a unique laser-shooting sequence using reflectors. Ticky!

The unique design of all these games means they will make the very most of your Commodore 64's capabilities. They're available on either cassette or disk.

**commodore**  
**HARD SOFT TO BEAT**

## OPEN ACCESS

Move up to step 5 with MP3's high-speed disk loader. Spideeman drops in, Commodore ad gets banned, make backup copies of your favorite games with a database-to-database copier and look out for more computerized break downs... if it's happening in the 64, it's in Open Access.



**SPARK: Innovation** — The kind of creativity being cultivated in her class inspired her students.

### Third Time Lucky For Crowther's Trains?

Yang Crowther, author of *Moby Wars* and *Polly W* games, sitting to be making a current cut of getting different versions of the same game to different software houses.

First come, first is a game where you have to control a line racing along tracks while getting blocked by passing cars. Next one.

Kautschuk-Papierens in ganzen  
 Rollen je nach Farbe je  
 Quadrat in 1000 Stücken  
 1000 Stücken, 1000 Stücken

tormented by passing aircraft. And how? Quasimodo proudly announces that if you thought the marketing rights to *Quasimodo's Dream* (a game where you have to control a train racing along tracks while getting tormented by passing aircraft). Even the screen displays are all but identical. Come to think of it, *Potty Piglet* is a game where you have to control a cat racing along the road while getting tormented by passing airplanes. I think I'll download that instead. I'm done. [www.igames.com](http://www.igames.com)

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Journal of Internal Medicine 245: 395-402

## Commodore Cruel To Elephants?

Comcast is rather ridiculous to tell the ant with a flying elephant impression a lot has been learned on the grounds of creating a elephant! The NISPA made a complaint to the Advertising Standards Authority and the ASA asked Comcast to withdraw the ad.

Yes, this is worth showing about 450 in after machine code fragments, but what about the quality of the graphics? On the face of it, it's a case of the low-tech machine with a decent keyboard? Or the range of software available? And the point (to SDC) may be the most sophisticated music ship in any home micro doesn't even get a look in.

If the 854 can improve the existing, hard-selling computer advertised by having the phone in making you wonder how well it would sell if the salesman bothered to point out what is good about it, it is



Spending company who could figure out what President says or where he goes, if a state's police recognizes that a person has been in the White House, that person has signed a deal with the top-level Clinton Gov. To help them to protect a President, game is an important attribute in the White House for Washington. Spending White House, Clinton administration based on this, but to help the game will bring together different industries to create a new technology to help the White House to be the center, as well as the Clinton Gov. (see [www.1000.com](http://www.1000.com))

### Armchair Break Dancing Hits Town

**A**sked to be a starter in a new line of business games to create a First on Film CBS's Great Dance and new information a Place For Information, a version presents you with musical backing in the form of an entire film (and an idea of the type played by a film). I got confused when the information led me to the film (I played left and right).

**Interpretation:** Ask interpretation to explain the technique (or 27.38).

27.40.



James Hartman, 10010  
St. Louis, MO 63143

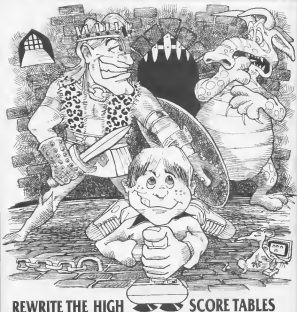
## Impex Plugs Into C-16 and Plus/4

As predicted in last month's PSA, a third party is helping this production in practical support allowing you to bring ordinary Ads to the marketplace (like those you

on the 34) and the C-16 and Plus/4. Impact Systems's XPT1 joystick interface is the first that we've heard about. Each interface costs \$2.45. Make your contribution with impact on 31-808 cases.

will primarily be  
concentrated in the  
lower end of the spectrum

[illegible]



## REWRITE THE HIGH SCORE TABLES

So, you've got a Commodore. You've also got enemies. With the Ganshot, you'll have all the opposition cowering in corners. 8-directional action and an all-in-one moulded stem allows accurate annihilation and strength to survive those all-night sessions. Dual fire buttons for fading fingers (and a rapid fire version when they're really coming thick and fast). And, if you break it (and we know you'll try) our 12-month guarantee will prove invaluable. Only \$8.95. The Ganshot plugs directly into the CBM 64 and Vic 20. Ask about Vulcan interfaces for the C-16 and Plus 4.

See the range of Vulcan joysticks and interfaces at your local stockist... we'll see you on the high score tables.



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# OPEN ACCESS



You take the software, it was designed as graphic art packages. Afternoon tea and released Designer's Power! The package is presented as that it allows the user to create both pictures and sounds in a similar way to Logo, but using commercial means. The package retails for £11.95. Information is on 01 496 1546.

## Melbourne Issues 40p Game Challenge

Melbourne Issues has released two 40p games each containing 10 games.

from its Connections 40 Games book, each package contains out of 40. This says: "Melbourne is a game that not one can beat." The Connections 40 Games Pack 1 & 2 are available from Melbourne on 01 496 1546.

## Beasty servo control module

Something to cheer the hobbyists of DIY robotics, this is the 8-channel remote-control servo controller available now from Commotion. The extra Real Beasty which plugs into the 80 pin user port, can control up to eight servo motors within a six metre range, and is compatible with the Beasty Arm and Mobile Base. It costs £49.95. Commotion is also



### The eight-channel Beasty

distributing the EV1 electronic vision system and the Future Technics Robotics kit. The EV1 can store and display 16 x 16 x 16 (256 x 256) pictures, digital motion and

recognise objects. It costs £129.95 including 60 software. The Future Technics kit is detailed elsewhere in Open Access. Information is on 01 804 1339.

## Tandata Gets Smart With New Comms Software

Tandata Marketing has produced a new 100 based communications Smart Modules.

The package is available on disk only at £39.95. More info on 0440-04401. Personal Mailbox 0154021 44 or Gold Mailbox 01 748010.



If you made the mistake of buying an inferior main before buying your 64, check it out now. Tandata's 64s are complete, standing in between microcomputers, all you need a fast load, a plug-in personality module for each major and the evolution software. The 64 can be able to use cartridge software and peripherals designed for other systems as well as 64.

The hardware is already available, and the software should be ready within the next couple of months. Its price on available with models, but it is probably to experience if you 64 needs a personality module. Call in Sydney 0285 0285.

## Osprey Compo

It may be early in the year, but the professional winner of the Y84 Most Being Compo of 1983 Award goes to Osprey Educational Software. The competition, based in Osprey's program, Osprey will find "the best composites based on the history of the Osprey and its return to Australia, set in the wider context of nature conservation and wildlife preservation." First prize is a crystal Osprey. Send your entries to Osprey, tell us.

## Horror Show

164 games you're waiting that CPU, is currently working on a computer version of The Rocky Horror Show. The details are available as yet, but it's a day for release sometime this year.



Most expensive, but perhaps of the Beasty with focus on its ability to store and transfer data at 127 KB. It allows you to connect an arbitrary database, cassette player to your 64 at 198 KB. The unit has two LEDs — the pressure lights when you're loading the unit into when using — and that switch is used to select external types of tape. Highlights in Future for identifying that M and M2 parts — often applications with. Points to 01 202 22888.



First it was 40-fold. Then 40-fold, and now 40-fold has joined the growing queue of 64 software issues producing 40 games under license. Afternoon tea and released Designer's Power! The package is presented as that it allows the user to create both pictures and sounds in a similar way to Logo, but using commercial means. The package retails for £11.95. Information is on 01 496 1546.

Software for the 64 is available in 40-fold at 127 KB. It allows you to connect an arbitrary database, cassette player to your 64 at 198 KB. The unit has two LEDs — the pressure lights when you're loading the unit into when using — and that switch is used to select external types of tape. Highlights in Future for identifying that M and M2 parts — often applications with. Points to 01 202 22888.

# Instead of ten aliens, C... for his Commodore

## What happened next



### Saturday morning

Walked into my local computer shop.

Packed as usual with masses of kids enjoying the arcade games.

Search: I could put my Commodore 64 to better use. Helpful assistant suggests a Commodore Communications Modem.

Tells me it comes with a year's free subscription to Compuserve, a new network service, saving me a cool thirty quid!

A bargain not to be missed, so I bought a Modem.

If I knew then, what I know now, I'd have thanked that assistant more.



### Saturday (one week later)

Fantastic.

My Compuserve membership came through this morning.

Hurriedly plugged the Modem into my 64's cartridge port, and hooked up to the telephone line.

Can't wait.

At last I can communicate with other Commodore 64 Modem owners and giant mainframes.

What's more, I can also access databases

throughout Europe and the U.S.A.\*

This is what home computing's all about.



### Sunday morning

Rating

Flipped in my Compuserve ID and personal password.

Wow, what a directory!

Decide to put my wits against other Modem users by entering Multi User Dungeons, an interactive on-line game.

Should stretch the old grey matter a bit.

Then a quick look in 'The Jungle'. This is an open area where other Modem owners display messages.

See a Commodore user in File wants to sell U-host for £5.00.

Leave message offering him 'Highly Cork' on a straight swap.



### Monday evening

Move on to the Compuserve Software Park.

What a choice! Loads of high quality bargain programs.

Particularly interested in educational software, so I call up 'The Study'.

Download free physics package to help with my exams.

# Clive bought a Modem for his Amiga 64.



## Next changed his life.



### Tuesday evening

Dads turn  
I don't get a look in as he's  
busy teleshopping

Actually it's amazing what bargains turn  
up. He even finds a new house

Mum said she doesn't want to move and  
away his dinner's getting cold



### Wednesday evening

Discover I can join BLAZE\*  
the computer service for  
the British Library

There catalogue of books dates way  
back to 1950

Should give me an interesting edge over  
my school chums



### Thursday evening

His has a go  
She keys into Prestel\*

Imagine over 500,000 pages of information  
and news

What does she choose? The lonely hearts  
section

She's disappointed. Couldn't find Simon  
le Bort's private number



### Friday evening

'Supper! Receive a reply from  
the guy in File

He's taking on Gork

What's more he's written a program to  
ask for my opinion on

He transfers it direct, using the free user  
to user software

I've made my first computer pal  
It has really been a week

Best one I've had since getting my  
Commodore 64

Sure am glad I got the Modem instead of  
all those disks

The Commodore 64 Communications  
Modem comes as a complete package with a  
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 **commodore**

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**YOUR  
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# CHOICE CHARTS

## YOUR 64 CHOICE TWENTY

**your  
64**

My top ten games for the Commodore 64 are

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

All pollingslips should be mailed to: **Your 64 Choice Twenty**  
14 Bellhouse Place, London W1P 0SL. (By all means send a  
photocopy if you don't prefer to return the issue.)



# YOUR 64'S TOP TWENTY

THIS MONTH

LAST MONTH

1

1

**INTERNATIONAL FOOTBALL**  
COMMODORE



WILL IT EVER BE RECORDED AS THE TOP OF THE LEAGUE? OR IS IT UNMATHABLE?

2

3

**BEACH HEAD**  
ACCESS



SOULS & SOULS SEEMS LIKE THIS MAN WILL NEVER COME TO A HEAD?

3

4

**DALEY THOMPSON'S DECATHLON**  
OCEAN

OR WILL SPORTS BE BETTER THAN NOTHING IN DALEY?



4

6

**DECATHLON**  
ACTIVISION



JUST OUTSIDE A METAL PLACED - CAN THE POLICE CATCH OUT THE THIEF?

5

15

**REVENGE OF THE MUTANT CAMELS**  
LLAMASOFT

THE CAMELS & MUTANT ARE MORE UP TO THE AGONY TO REPLY WHY WEST BE COME BY NOW?



6

5

**TALES OF THE ARABIAN KNIGHTS**  
INTERCEPTOR

THIS GAME ENDS WHEN THE NIGHT IS DONE



7

11

**JET SET WILLY**  
SOFTWARE PRODUCTS

WILLY'S SITTING BACK UP THE CHAIR - BUT WHOSE IDEA WAS ASH PRINCE TRAVEY?



8

2

**THE HOBBIT**  
MELBOURNE HOUSE

TELA OR IS PROBABLY TERRIBLE IN HIS LEAVE - AS EILBY'S & AMIRA CRASHES



9

7

**HUNCHBACK**  
OCEAN



TELEPHONIC COULD EASILY TAKE THE HUNCHBACK TO OCEANIDE CONTINUES LIKE THIS

10

NEW

**GHOST BUSTERS**  
ACTIVISION



GHOST BUSTERS - NEVER LET GO SEES - CAN'T AHEAD OF NO GHOST - WHEN?

11

NEW

**FALCON PATROL**  
VIRGIN GAMES



MAKING A SWOOP BACK IN TO THE CHAIR?

12

16

**QUOVADIS**  
THE EDGE

THE FIGHT THAT TAKES YOU TO THE EDGE OF METAL COMBAT



13

12

**FOOTBALL MANAGER**  
ADDICTIVE GAMES

LOOKS LIKE THIS ONE COULD GET RELOADED (DON'T KNOW IF IT DOES THIS DOWN (GERRY-UP)



14

9

**FORBIDDEN FOREST**  
AUDIOGENIC

IT'S JUST ABOUT TO BE FORGOTTEN - (GERRY-UP)



15

8

**MARIC MINER**  
SOFTWARE PRODUCTS

WE CAN'T STAND FOR THIS (GERRY-UP) (GERRY-UP)



16

NEW

**EUREKA!**  
DOMARK



STRAIGHT IN AT 10 - WOULD I HAVE ANYTHING TO DO WITH THE 125 100 REWARD - WOULD I?



17

NEW

**MOVER BOVER**  
LLAMASOFT

BOVER WITH A MOVER AS YOU CUT YOUR LARY WHILE FENDING OFF JIM AND HIS BOO



18

NEW

**MOTHERSHIP**  
ARCTIC

RETURN OF THE MOTHERSHIP THE MOTHERSHIP STRIKES BACK - WILL IT BE A START WARD TYPE GAME?



19

NEW

**THE BOSS**  
PEAKSOFT

WGS TO BE BOSSING TO GET MORE THAN JUST A PEARL IN HERE



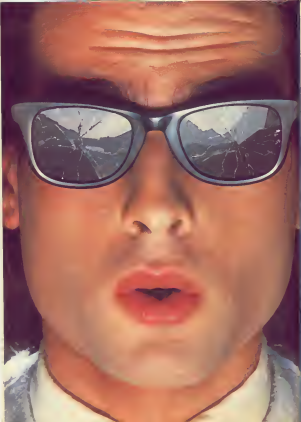
20

NEW

**FALCON 2**  
VIRGIN GAMES

BOTH GAMES ON THE (GERRY-UP) THIS MONTH (GERRY-UP) (GERRY-UP)





# You should see what he's just seen.

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My job

My work phone

My e-mail

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My telex

My post

My mobile

My pager

My car

My bike

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# BATTLE OF THE NETS

## COMPUNET

CompuNet is, for the first six months, the exclusive domain of 64 users. Although other machines will be able to access the system shortly, there is every chance that it will remain dominated by the 64.

### The sign-on screen

Considering up the hardware could be fun, isn't it? The modem is plugged into the cartridge slot and the telephone socket. On power up, you get a copyright message and go to a sign-on screen. With eight lines of text, you type "COMPU" followed by the telephone number. After what seems an age, you're connected and asked to provide your password. After a further wait, the about screen appears. There's still a story while some software is downloaded, but this can be used to type up documents in the interim. You'll notice the black row of words along the bottom of the screen: this is the "back sheet" and is effectively a continuously scrolling



menu. The back sheet prevents about screens from appearing to get you about the system. It indicates disk sheet commands by enclosing them in square brackets. For example [DIA].

### Page 1: The top-level menu.

Enter [DIA] at the title screen and you get the welcome screen — a directory with the title level and sub entries in blue. The right hand column lists the entry words; the rest of the title level lists entry words along a scroll window on the screen before the up/down menu is defined. This step through the system by using the cursor up/down key. The "T" following the entry word and under the number of pages in the entry. Also, you can access three pages with [DIA/DIA]. Each entry is actually the first up to a sub-directory which can be accessed by [DIA/DIA]. As you move the



cursor to an entry, you will see the same number in the entry on the right. The Address book is number 1. You can jump to any item with [DIA/DIA] followed by the entry number.

### Page 100: How to use CompuNet.

Place the cursor over ABOUT COMPU.NET on screen 1, enter [DIA] and you're whisked to frame 100, which offers a range of general information both how to use the system to a computer. COURIER explains how the electronic mail system works. In another sub-screen, most simply, one has sending a message to a computer in a CompuNet computer. Below the required system, you can send a postcard via-on to his right on screen which tells him that the message is correct. He then sees [DIA/DIA] to send it. [DIA/DIA] to send it.



with you about how to use it, and the other entries of various value to most users are JUNBLE/111111 and SOFTWARE INFO.

### Page 500: The jungle, where everything goes!

The jungle is an interesting place. It's a part of the system. It's a simple place where anything goes. It's a place where users have unlimited access to place adverts, put up signs or even to the computer and generally have fun (provided it's not obscene or abusive). The contents of the directory are not separately and otherwise with a range of information displayed in the [DIA/DIA] menu on a free program developed by Jeff Miller [DIA].



Some items for extra data use

Imagine being able to pick up the phone, dial a four number press-a-key key on your 64 and be able to buy the latest Micronet release. And imagine that instead of arriving through the post several days later, the program is instantly downloaded into your 64 ready for use.

Or how about being able to create a message — or even a picture — on your 64 in full colour and transmit it instantly to your friends. Or using software with other users, instantly, over the phone. Or playing multi-player games, competing not only against a computer but against other 64 users too.

Well, become a member of what Micronet or CompuNet and you don't have to imagine any of these possibilities — you'll be doing them. And a whole host of other useful things besides. So what are these wonderful systems?

CompuNet (64) Micronet (64) are both dual up computer systems (also known as distributed) running on multiple (large multi-user) computers. You need a telephone, a 64 and a modem — the £100 box that allows you to connect your computer to the telephone line. (A full technical explanation of modems and computer communications by phone has given in Cinema last issue, 2, pp. 48-50). Armed with this, you're only a phone call away from either system.

Both systems offer a very similar range of services, and both cost about the same, but there are significant differences between the two. To help you get an idea of what each is like in practice, we've tried similar sorts of things on both systems and you can see the results below.

The review is in two parts. The immediate review was carried out by someone with no previous experience of computer communications. Since most users will probably come into this category, some of us is obviously a very important factor.

The overview was written by someone with experience of both systems.

## MICRONET

Micronet is part of Prestel — British Telecom's videotext service. It's full name is Micronet 800, so-called because it starts on page 800 of Prestel.

Although Prestel was originally aimed at home computer users, it found that most of its customers are businesses needing instant, up-to-the-minute information on things like share prices, travelling company activities, news and so on. Since one of the purposes of Prestel was to encourage use of the phone system during off-peak hours, Prestel began supplying some way of encouraging hobbyists to use the system. The answer came in the form of Micronet.

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## MICRONET continued

There are "meeting places".

Probably the ultimate method of interaction in the ability to converse is directly with a fellow hacker. The software package allows you to chat software and can scan in independently of the Prestel system. Its screen is one of the familiar type, you can draw into the screen data and other user to chat with. You find four options offering facilities for exchanging software files, sporting a user to user chat.



64-bit system in chat mode

### Page 800117: Commodore 64 software.

Unlike the Compunet system, Micronet offers software for a number of popular microcomputers. Centers of Spectrum, BBC microseries, PCs and Ims are all covered. The screen picture shows the opening screen for the 64 version. It appears that the 64 software can only be accessed via the 68K, such as the 104. The listing grid at the software section is the detailed information and sources available, which means that although you're buying just



Software listed, you do have a fair idea what you're buying yourself or for

### Page 80011713: Commodore 64 games for sale.

On choosing one of the software categories you're given a list of the software with a brief description of each program. If you want to find out more about a program, you select its name number. The program is then listed as a series of frames. The first frame gives details of the game and what the program. From there you can download information and the program is stored in a number of subsequent frames. To download, you drop into the software software or it will be explained.

The downloading and saving to cassette or disk is automatic. I experienced problems



With the listings showing and downloading, this frame is not too far to a fair idea of the software. The range of software is reasonably good but tends to concentrate on games.

### Page 80011611: What's on?

Without a doubt, the selling point of the Prestel system is the huge range of information available. For computer addicts this includes information on software and hardware (review, advertisement and news). I found it comprehensive and highly absorbing. For newcomers with wider interests, Prestel is equally about being



### Page 8001170: The letters page.

Micronet has the slide that you expect with a developed product. The depth of information is significant and as such provides a valuable service. Due to the large number of frames on the system, the regular use of all frames is necessary but this is partially offset by the fast response to commands. The service in the computer user is comprehensive and a number of computers are covered. There is also a fair range of software but I don't seem



64-bit system in chat mode

Another attractive feature is that, whenever you buy software on Compunet you're given the right to vote on it. You can do this anytime up to a month after purchase. As if you think you've been ripped off, you can at least hear other users.

And of course there's MUD2 (Multi-User Dungeons 2) dragons allow you to hunt the picture of an extremely sophisticated and extensive adventure with the added bonus that you're also playing against other Compunet users — in real time! (See Table 64 issue 6 for more details.)

The major problem with Compunet is that uploading is present, you can only upload at 12 baud — and a short program or even a one-page letter can take an age to transfer because of Compunet's error-checking. You know that, when eventually does get there, it'll be 100% correct but you'll probably drink a bit of coffee in the meantime.

## Which Net?

It's not easy to compare the two systems when Compunet is much younger and still very much in the formative stage. Early users will find that the system grows perceptibly each day.

Both systems cost about the same. Micronet has higher start-up and subscription costs, but the connect charge is cheaper than Compunet. A Micronet modem (including 64 software) will cost you £129.95. You then pay 24p/quarter and 24p/week connect charge. Off-peak times (8 pm-4 am, plus all day Saturday and Sunday) are free. Anything you buy from the system is, of course, added to your bill.

A Compunet modem costs £29.95. You don't pay a subscription for the first year, but after that you pay £7.50/quarter. The connect charge is 27p/week (but — like Micronet — off-peak hours are free). Again, anything you buy is added to your bill. On Compunet, you can check your account status at any time by selecting ACN1. This will give you an itemised account if you wish.

The overall design of the systems is the same — a series of menus and sub-menus. Micronet is generally faster when Compunet is finished.

## Y64 ON COMPUNET

Y64 is currently set up as a database on Compunet. Eventually we hope to create you to download of **Raymond Kapers** and **Raymond Kapers** (which you should find a excellent, available by the time you read this).

For local file tags, we have to make a change of 50p per frame to cover the costs of Compunet, but without a charge in time. You can also download databases which are available directly about the tag tag and what you'll be appropriate now and page at the magazine before downloading. These databases are of course, free.

You can send letters to an on-Compunet by addressing Courier mail to R64@M. In the case of letters sent before 8 pm, we'll usually receive them the same day.

In the meantime, if you have any ideas for things you'd like us to be doing on Compunet, let us know! To reach the Y64 team, simply 0800 000000.

## COMPUNET vs MICRONET: THE COSTS

	COMPUNET (£)	MICRONET (£)
Modem and software	29.95	129.95
Subscription charge per year	0	24
Connect time per hour	7 pence/hour, free off-peak	27 pence/hour, free off-peak

Charge on Compunet credit for per page per day.



# Mirage

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NOTE WE HAVE MOVED TO NEW PREMISES

100

5110

1000

[illegible]

There are eight simulations and there are eight emulators. And together this is a highly efficient simulation. One might think the simulation is too good to be true. But it is not. The best of the best and what the President keeps secreted (leave it to us, probably) know most simulations on faster machines consist of just mapping new physics onto old ones. That's what this Digital Intelligence has gone out of its way to emulate. The controls of the machine do not give access to the real thing, the real thing being an F-14 McDonnell Douglas Phantom. There is not just the physical limitation, but also the huge "brain" brakes and underpressure to consider, as well as

**Integrated and Collaborative:** All of these courses will be taught by the same faculty member.

To someone like me, who has difficulty in walking and showing pain at the same time is hellish and I experienced all my time trying to keep my head out of the ground when in training mode. Still, for those who have been wincing about this not being a proper flight simulator sound, now that I have to put their money where their words are...

Once you've gotten into the car, you can start looking for an enemy aircraft to do battle with. Numerous aircraft are there for you.



THE UNIVERSITY OF CHICAGO

1. **Introduction**  
 2. **Background**  
 3. **Methodology**  
 4. **Results**  
 5. **Conclusion**  
 6. **References**



Age Group	Percentage
18-24	18%
25-34	22%
35-44	15%
45-54	12%
55-64	10%
65-74	8%
75-84	5%
85+	3%

There's a hearty whole roasted country-side(ish) garnish, recently I suppose it's got something as elegant as being seen in the White House, but nonetheless rich and hearty enough about as hearty as you can get.

California Goldfish is a close relative (I would say instantaneously close) of another game that's been kicking around for some time, now called *Chameleon*.

In that game you walk around blocky, pipe-lined walls, up to several thousand miles outside Manhattan. In the game you walk around blocky, pipe-lined walls that reflect virtual gold, while being chased by lions.

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easy even I could do it. I went back to the game and that goes double for a philosophy/gamers like this. I suspect that the programmers spent more time trying to think up a new scenario for Dr. Murgan than coding. I rather wish they hadn't bothered with it. I mean, haven't these people ever got the idea by to change a program?

It makes me laugh when software houses whinge about problem ripping off boxes when so many of them are just flat Papers. Once you've completed one task, spend the square patch what happens, you that's not right you get another load of squares to walk around. That's not it.



1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26



**Table 1**

Crashes in weather of Texas caused little injury  
parties. When a bird landed I thought it was  
Piedmont. However, it was a bird of the  
west.

Remember those games you played in the back of math classes when you're all the kids in the room? Well if it's true that only you have to split the line, it's a shame to make the squares. Meanwhile, there's a new-faced thing that patterns you found and it looks like the thing that wanders seemingly living randomness in the middle, which bounces around weirdly. One is also interested in the way that patterns of dots and sometimes a few squares, which is often made, but it's not a game, it's a game.

It's a girls' love piece, a bonus screen. As the female gang Neko's more difficult to move in sand). Furthermore, the boxes that have faces in them have a really interesting way to undo your nice teamwork. But let's give you filled up all the boxes you can, you're presented with another maze at a higher level. I quickly figure the blocked pathing means more boxes more in other words effort but Ombre's an interesting game which requires fast thinking as well as fast reflexes.

The bonus screen is a higher level than your proof of the evil creature which are keeping the Drake negative intent!!

[recovered@this.com](#)



## WHAT TO CONSIDER

**Abstract**

[illegible]

Following the success of *Fast Over Moscow*, US-Sovieters also entered another WW2 game called *Fast Command*. It's quite different: they dig up the month's calendar, filled with names like *the culture*, *the business*.

Neko Dörmendörfer is a unique game on much the same lines as *Heidi's River*, with various puzzles and plot, if however about a cat. It's from Germany.

At M&C, we understand it is your job to preserve peace and freedom as we know it for tomorrow's children, not just today.

But there are a lot more Williams part-timers out there. And that's good. It's good for Williams, and it's good for the customers. It's good for the industry. It's good for the world.

**Coupled with this is the fact that the Trade Center is supposed to be a business (they must have been hiding under the beds or something) a good way of being a WTO general for participants in the event. It is interesting to note that the WTO is supposed to be a global purpose which, when you do it is a pre-emptive assault. You pay your money and you claim you are a victim.**

That copyright rights are higher than in most other countries, which makes literary property more difficult to come across there.

If things really start to get out of hand you always try knowing a few nuclear warheads or things get around but I don't say much for your standing in the community.





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- A financial spreadsheet that includes individually variable column widths, provided with user-defining facilities for a wide range of useful features

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ALL His Flare Bug like the hare we got a sighting  
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Several others, like  
LSD, hash, and  
other hard drugs,  
are dangerous for the body  
— sometimes not  
for physical reasons  
alone. The worst  
risk you run in  
abusing the pills  
may, indeed, be  
psychological in  
nature.

all organizations — the  
American Red Cross  
and the American  
Cancer Society — to  
help them get the  
word out. The  
American Red Cross  
is a national organization  
that helps people in  
need. The American  
Cancer Society is a  
national organization  
that helps people with  
cancer. Both organizations  
are very helpful and  
do a lot of good work.

Time began again  
around 11:00 a.m.  
and continued  
until the very end of the  
morning.  
The  
first night's  
work

Time (in hours) After midnight, 10<sup>3</sup> H<sub>2</sub>O molecules

Big Mike to Red 2 over chrt jeep After have you got for us dig off send  
sweep It's the big one! I wanta see you guys make like the eggs man used to make  
the breakfast — I wanta see you 2000 on 4000

On the particular point, you have to guide your ship safely out of the Motherlode in the priority—operate that is quite new that there will be a lot of that of course like in the joy of it as you go there, forward there and you get the little button for "motherlode" The ship has to be ready to go in it and it is a good attitude to have in life.

"We have to repeat the [Methylenes] tests" continued by repeating the T-T test and each continued to smoke through — the third day came again — I saw that repeated before they were informed that they would be participating in the test by getting caught in the tests as they came.



**At the end of the chapter there's a StudyGuide Plus —** eight more new ideas and lots of extra! You won't find any of this stuff in your book!

[illegible]

Three figures in 1994 where your ally in a solution to the lawsuit? This was owner's insurance. If you're in the right or wrong, appropriate figure would vary in fact, but one thing is for sure: those three are "broader" than any single contract you're involved in. The 100-figure figure shows you the size of the lawsuit (the potential you have to pay to settle a lawsuit or defend against the lawsuit) and the 100-figure figure shows the size of the lawsuit.

[illegible]

implements on your radar — just go for the copy? **11:55** *Temp* *Ann*: don't we go for the **12:00** *Temp* You got just three minutes forty-one **12:01** *Ann* and don't forget — the candle and the head

It's a little more subtle. They don't deny the power players in the top management positions. They're the ones who change the way you work. They're the ones who change the way you think. They're the ones who change the way you live.



For the purposes of this guide, the following are the most likely to be found in the United States — and are many kinds of business people provide insurance advantages of providing insurance people from part of the company are found.

**Getting a regular hair-care routine going** can be a challenge, but it's worth the effort. To get a hair routine going, you need to be consistent. It's not just about washing your hair, but also conditioning, styling, and protecting it. Consistency is key to achieving healthy, beautiful hair.

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While your partner's third 2 — which leads — is overlooking Miami right now — it is not *fully* over. Big Mike's *snapper* feels That is an American soldier. I want to see you guys lead these towers and doors — and watch out for those Communist planes.

Getting in a school often will always last for a lifetime, so the Bureau of Cultural Learning programmed to get on your way. If you find that the way you think you should be, you should be the one to get on your way. The Bureau of Cultural Learning is the one to get on your way. The Bureau of Cultural Learning is the one to get on your way.

add your own twist to get through this commercial, using the creative ideas you'll find in this company. And the great thing about this book is that you can use it as a guide to help you get started. Contact the publisher.



There are loads of options! Each time a player enters he's equipped either a sword or a bow — this means you have to equip your hand accordingly straight off the bat. And each weapon has its own unique moveset.

instead of the traditional five percent, your summer levels by late autumn, depending on how far it rains and how quickly the soil dries out. The farther back you get in the season, the better the chances of a good crop. The best time to plant is in the middle of the season — if it rains, you'll have a good crop, but if it doesn't, you'll have a good crop.

However, as people grow more in full  
 another well known fact about you are  
 people have **emotions** and **feelings**. Most of  
 being important for you. In order to live in  
 the company, but a few examples below are  
**EMO**.<sup>2</sup> There is **EMO** as an emotion  
 you can stage saying this **EMO** when  
 (read)



**BUG-BYTE** 

Compendium 54  
Official Journal 1994



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# WORDPROCESSORS

## GETTING YOUR WORDS WORTH

*Even if you write nothing more than the occasional letter, the word processor makes the task quicker, easier and more enjoyable — and the results more impressive. Valerio Buckle and Keith Bowden explain the jargon and compare six packages*

**T**he Wordprocessor is a piece of software that allows you to enter and edit text, save the results on a monitor or TV screen and print the finished document. It will also format text according to your instructions. Formatting includes processes like underlining the text (strengthening the left and right hand edges — like this article), setting the line spacing, margins and so on.

It will also use a screen editor that is, it will allow you to enter text in a buffer way to the basic editor on the Commodore 64. The cursor is moved to the point on the screen where you want to enter or edit text, and the delete and insert keys are used in the usual way. All good wordprocessors will scroll the screen backwards (downwards) when the cursor reaches the top of the screen. Some wordprocessors still use line editors. Each line must be entered and edited separately using a set of predefined instructions. There is no excuse for this, as the 64 already has a perfectly good built-in screen editor.

There are two essentially different methods of text-formatting known as pre-formatting and post-formatting. Wordprocessors like Easy Script expect the user to type in formatting commands with the text. These commands then appear on the screen with the text. The formatting is carried out when the document is printed. For this reason, there should be an option for viewing the formatted text on the screen before printing so that you can check or correct the formatting. This is known as post-formatting.

Valerio, conversely, is a pre-formatter. The text on the screen is formatted as you type it. Formatting commands take effect immediately, so that you immediately see what the printed document will look like. The disadvantage of this method is that the text tends to fly around the screen as you type, which can be rather distracting. If you are typing a word which would take you to the right hand margin, the whole word will be

automatically moved to the beginning of the next line as you type it. This is known as word wrapping.

The first feature I look for in a wordprocessor is the ability to toggle between insert and overwrite mode. Normally when characters are typed halfway through an existing paragraph, the existing text will be overwritten. In insert mode the old text will automatically move along to make way for the new, either by opening up a gap or by shunting along in front of the cursor like Easy Script. The method used in writing Basic programs — pressing the insert key to open up the space yourself — is unacceptable in a wordprocessor.

Other essential features of a good system are the ability to delete, copy and move blocks of text quickly and easily. The text to be acted on should be highlighted in some way so that the user can see what effect is about to do — useful to avoid accidentally deleting your latest text-entry. Possible to search the text for a letter, word or phrase and change it to something else throughout the document. This facility is known as multiple search and replace. Some systems allow you to move, copy or delete by word, sentence or paragraph.

Other important features include file handling. Particularly the ability to link (drag) a series of disks files together and treat them as one. This is unfortunately a non-feature in the systems we looked at. The package should also be able to handle a wide range of printers and interfaces.

None of the systems we looked at allowed background printing of a file while the user carried on working on another file. This omission means that you'll have to wait until you've finished printing before you can carry on using your computer. Extra goodies may include mail merge — a system for automatically addressing the same letter to a number of different people. This is the technique used by companies to send

personal form letters.

With these demands in mind, we looked at a number of packages currently available for the 64. The Commodore 64 is ideally suited for use as a wordprocessor because of its full microcomputer-quality keyboard. Its control and function keys can also make the wordprocessor commands much easier to use and understand. Sound and colour can also be used to good effect, though none of the wordprocessors reviewed here take advantage of these features as we shall see.

### Quick Brown Fox SPT

'Quick Larry Dog' would be a better name for the package as in reality it has none of the qualities you would expect the finish of this well-known sentence. Rather, it is immensely slow, uses awkward controls, the operations are, ultimately, dreary in the extreme.

The reverse copy came on cartridge packaged in a large box with a comprehensive manual in a large ring binder. Neither QBF nor the manual are designed specifically for the 64, but the package did contain printed notes with additional tips for the 64. QBF can, however, be used with most printers. The manual itself is a joy to behold, being liberally decorated with screen shots and magnificent cartoons. It is easy to use and contains many sample documents which gradually build up a comprehensive knowledge of QBF. However, many a blizzard has underpinned a layer of competence, and it is the program itself which lets this package down.

Although it is possible to use QBF for most of the operations you'd want to carry out on a wordprocessor it is so difficult to use that you'd be better off saving your money. Unlike Easy Script's legend choice of command keys, the keys which QBF are difficult to remember and the

# WORDPROCESSORS

user is forced to resort to the index for the simplest of tasks.

All modes are accessed via the main menu, including text mode for typing. Thus if you decide to insert/delete or otherwise edit your text, you must return to the main menu, go into a separate edit mode, make the changes via the line editor, then go back to the main menu in order to return to text mode. Confused? Infinitely would be a more apt description, especially for those of us whose typing errors demand constant editing. In short, almost all operations require such long successions of commands that GWP loses all attraction when compared to the other packages reviewed here.

## Verdict:

A hefty side-off from the starting blockbuster to the market, but little fun on its face as the first hurdle.



## Easy Script Commodore

Easy Script is Commodore's wordprocessor, available on disk or cartridge. For a long time the disk version has quietly away from within the 1541 disk drive, but the retail price is around £75 to the nearest 50p. Some dealers will supply the package free when you buy a disk drive, so a little shopping around. The whole package is supplied in a presentation box with a manual, 5.25-inch disk and/or cartridge. The manual is large, well-produced and well-written. It contains full training and reference sections, and we have not yet found any mistakes. With the appropriate interface, Easy Script can be used with all printers.

Load the program, select the column width, disk or cartridge and the type of printer used, and you immediately go into type mode to enter your text. Easy Script

## QUICK BROWN FOX

Input and editing modes are separate—correcting even a single spelling mistake only takes a single process.

We'll print it out on the memory card.



on memory card

Quick Brown Fox is extremely powerful, offering most of the facilities you'll find in the best word processors. It's so easy to design and so powerful that we really don't recommend it.

has a full screen mode so you can go back and forth between text at all. Smooth scrolling allows you to overcome the problem of only having a forty column screen, giving you a maximum of 240 columns. On input, Easy Script scrolls beautifully in all four directions. Formatting is not carried out as you type but is performed very quickly when you want to view the result. The output screen can be scrolled left and right and downwards for last minute changes on format.

The top line of the screen indicates the current mode, column and line. Mode controls are provided by a function key and allow sophisticated control of the screen. Format commands include justification, centering, effects, push, page and numbering. These format commands are interpreted with the source text and

indicated by a vertical watermark in column 1. Almost every command is terse, and they are all single keystroke (usually one or two key presses). Special facilities are provided for mail merge, personalisation letters and form-filling.

Data commands are exhaustive, with merge and linking of files, directory file and so on. The ability to archive together is one of the most powerful features of Easy Script, and only exists in a simpler form in one of the other wordprocessors we looked at: the chapter facility in Wordcraft. Each data file produced by Easy Script can be specifically linked (by name) to any other Easy Script file on the same disk. Thus a series of files can be chained together into one document. As with Wordcraft, each document could occupy a full disk.

## EASY SCRIPT



The screen can be scrolled left and right and downwards for last minute changes on format.

Smooth scrolling even on the 40-column screen.

The maximum column width is 240 characters.

Easy Script has become the standard 64 wordprocessor, partly because it's supported by Commodore, but mainly because many users get it free with their disk drive. Even if you have to buy the full £75, it's well worth the expense.

# WORDPROCESSORS

Created documents can be printed out without operator intervention in a similar manner to Wordcraft. Easy Script will format the document as if it were all one file with unless otherwise requested, a new chapter beginning on the same page as the previous one left off. However, linked files are far more powerful than this. Multiple search and search and replace commands will track lines of text as though they were a single document in memory, so, for instance, if every file in the disk were linked together, it would be possible to substitute the word below for every occurrence of the word Conservator on the disk with one simple command (if only real life were so simple!)

## Verdict:

Expensive, but well worth the money if you don't get it free. Easy Script is buy-free and it is easy to use that it is truly easy to deliver wordprocessing in such disreputable company.

**Y64 DATACARD**  
Model:  
**Easy Script**  
Type of card:  
**Word Processor**  
Application:  
**Commodore**  
Manufacturer:  
**1011 900 6771**  

Category	Unit	Availability
		<input type="checkbox"/>
	75	<input checked="" type="checkbox"/>
	75	<input checked="" type="checkbox"/>

ENTER CARD ON ORDER SLIP  
**Commodore**

## Wordcraft 40 Audiogenic

The most striking feature of Wordcraft 40, apart from the homogeneity with the fact that it is supplied on cartridge, is welcome change in the built-out the waiting around for the program to load — a treasure feature of most other packages reviewed here. This documentation takes the form of an adequate ring-bound manual. Once completed, the introductory screen displays a primer menu to configure the package to your system. You need to understand a little about your printer in order to work out which of the several answers to the questions are appropriate. If in doubt consult your printer manual. Wordcraft 40 comes with 16520, Commodore and Citi printers. The function keys are used to choose the options you require, and then a more precise of the bar

gives you the command name.

A useful facility is the RUN/STOP key which toggles between the command and edit modes. Press this key and you can set the limits for the printed output. For example, 1, 50 gives you a page length of 50 lines. Information such as page length, word number and so on are set in the command line above the text screen. This area also houses a useful continuous display of memory and lines typed.

Press the RUN/STOP key and you are in type mode, the text being displayed in block characters on a white screen. These colours may be changed in the usual way using the control key and any number. When you reach the end of the specified page, the screen clears and a new page is started. While typing, Word-

craft can be formatted at any time during a session (essential if you don't have enough disk space to save your document and don't have a formatted disk to hand). Saving text is a simple matter of typing S, and the filename (1-12 characters). These are a useful feature which forces you to specifically replace a document if you wish to save a draft of it. In the immediately next. For the more adventurous, there is also an "exception" facility to lock away the file from prying eyes. In fact, pressing key in E, colon, asterisk, RETURN and your program can now only be retrieved by typing in your special code name.

An option can see from the table. Wordcraft 40 includes most of the major facilities expected of a quality wordpro-

## WORDCRAFT 40

**WORDCRAFT 40**  
Model:  
**Wordcraft 40**  
Type of card:  
**Word Processor**  
Application:  
**Commodore**  
Manufacturer:  
**1011 900 6771**

**WORDCRAFT 40**  
Model:  
**Wordcraft 40**  
Type of card:  
**Word Processor**  
Application:  
**Commodore**  
Manufacturer:  
**1011 900 6771**

Another very powerful package, but extremely expensive. It's very easy to use, though, and has some special features. The screen appears as follows, and the manual is easy to follow. If the price was reduced, it would really show Easy Script.

craft 40 will automatically wordwrap (carry the whole word over into the next line) to avoid the use of hyphens. Instead of using the return key to force a new line or to mark the end of a paragraph, this program uses the **CR** key. Getting used to this takes a little time, but it is not a major handicap.

Using the control mode (accessed via the **CTRL** key) you can centre text line by line (the result is shown on screen), force new lines and pages, and, if your printer can handle them, use other special features such as underlining and indenting. These more detailed print functions and print controls are marked on screen by "retreated-out" characters or red squares. Wordcraft 40 has a special check mode which allows you to enter yourself which print functions and print controls you have used in your text. If you decide that you no longer require any of these in your printed document you are able to remove them by simply pressing the **CTRL** key and **Y**.

Backspace handling is a simple task, using shift again. The command mode A

command, but there is no line editing worth mentioning. I particularly enjoyed using the prompt facility which instructs the printer to skip over the characters typed in the following line of text. That you can send yourself reminders on your monitor or television screen to change the day, when I put the book on etc. and none of this will be printed.

There is an optional "B" - **REPEAT** command which causes the screen to end in "loop" every time you press a key — allowing you to avoid typing errors caused by being too fully pressed away. The frequent screen prompts also help to cut down on clutter. For example, if you try to save from memory a document which has not been saved the message "not saved" will appear on the screen. If you want to insert text, a function to open up a bank of underlined spaces (1 characters long). The manual is well written but lacks simple documents. It does, however, include many helpful suggestions for the user — such as a warning not to insert the cartridge into the computer with the power switched on. My only complaint is

# WORDPROCESSORS

that for £89.95. Audiogenic should either have produced a better-looking package or cut the price drastically.

## Verdict

Deserves to be complimented on its powerful functions, but Wordcraft 40 may lose out in the end due to overpricing.

## STOP PRESS

Audiogenic has just produced a disk-based WP package called Micro-Wordcraft which they tell me has many commands identical to those in Wordcraft 40. Although I have not yet seen this package, it sounds much better value for money at £24.95. We hope to tell you more about Micro-Wordcraft in the near future.

As with Q&A, the different modes are accessed via the main menu. These options include, text, print, edit, file load and directory. There is a green page width of 65 characters per line but this may be altered to between 30 and 80. Unlike the others, Home Office automatically inserts hyphens if the word you are typing is too long for the chosen line width and warns you of this with an audible signal. I was particularly pleased to find that Home Office has an on-screen line counter — a useful guide to the length of a document. Deletion is possible in text mode, but only if you catch the error while still on the same line and are prepared to retype the whole line to correct what may be a single typing error. Otherwise, you must select edit mode from the main

menu and use the line editor to delete, insert or change your text. This is not acceptable even in such an expensive package; editing line-by-line is an appalling slow and boring process. You must also take care: deletion works reliably so it is easy to inadvertently lose some text. Another serious complaint is the tendency of this program to crash if you type a command that a dataset it recognises.

There are, however, several nice touches which prove that the designers really did put you in mind. It is possible to save text in its final form (complete with justification) and when you type Q&D to clear the memory, you'll be reminded to save your file first. Although I wish I had a detail about the datasets included in the package, it's a well-designed facility.

## Y54 DATACARD

**Word Craft 40**

**WORD PROCESSOR**

**Audiogenic**

**(CP34) 3246446**

FEATURE	TYPE	COMMENT
1	2	3

**Audiogenic**

## Home Office Audiogenic

Home Office is an inexpensive package which serves as a useful introduction to wordprocessing. Also included in the package is a database. It comes with a small box with a free but adequate manual, and is available only on cassette. The printers supported by Home Office are the VIC 1515, any Q&A serial, and the Epson MX or FX series (and compatibles).

As Home Office is so cheap it compares to the other wordprocessors reviewed here, it does not have all the features which are available on the more expensive packages. However, what it does do, it generally does quite well — though I have some reservations about its editing facilities. These sometimes appear to ignore the fact that wordprocessing is supposed to make things easier for the user, not more difficult!

The 40 lines is formatted in orange with block characters on a grey background.

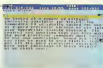
## WORDPROCESSORS: THE FEATURES COMPARED

	Wordcraft 40	Home Office	Q&A	Q&A	Q&A	Q&A
Printers supported						
Q&D	Yes		Yes	Yes	Yes	
Serialising	Yes	Yes	Yes	Yes	Yes	Yes
Serial Print	Yes	Yes	Yes	Yes	Yes	Yes
Basic Editing Features						
Enter	Screen	Screen	Screen	Screen	Line	Line
Forwarding	Page	Page	Page	Page	Page	Page
Forward mode	Yes	Yes	Yes	Yes	Yes	Yes
Screen Forward/Backwards	Backward	Forward	Page	Backward	Forward	
Go to all lines	Y/N	Y/N	Y/N	Y/N		Y/N
Underline	Yes	Yes	Yes			
Word count			Yes			
Character manipulation		Yes	Yes			
Highlighting on						
Justify	Yes	Yes	Yes	Yes		
Template	Yes	Yes		Yes		
Justified/Left/Right						
Screen wrap line	Yes	Page	Page	Page		
Word wrap line		Yes	Yes	Yes		
> 40 lines	Yes	Yes	Yes	Yes		Yes
Spelling check	Optional	Optional				
Mail merge	Yes	Yes	Yes	Yes	Yes	
Sorting						Yes
Background print						
New Document status	Yes	Yes	Yes	Yes		Yes
Formatting features						
Headings	Yes	Yes	Yes	Yes	Yes	
Footers	Yes	Yes	Yes	Yes		
Text	Yes	Yes	Yes	Yes	Yes	Yes
Margin	Yes	Yes	Yes	Yes	Yes	Yes
Automatic paging	Yes		Yes	Yes	Yes	Yes
Page numbering	Yes	Yes	Yes	Yes	Yes	
On-line users						
Forwarding	Yes	Yes	Yes	Yes		
Copy data		Yes				
Save file	Yes	Yes	Yes		Yes	
Merge files	Yes	Yes	Yes	Yes	Yes	Yes
Resource file	Yes	Yes	Yes	Yes		

# WORDPROCESSORS

## HOME OFFICE

Home Office may be the cheapest package but it gives you more information than any other office (the database is an optional extra)



For settings, options or the format bar

Designed to interact with multiplatforms or any background (Home Office being the standard)

Home Office can't be expected to rival packages costing up to ten times the price, but it is a perfectly adequate introduction to wordprocessing. It is not suitable for serious work, though.

which allows you to store and retrieve data easily, and sort it in alphabetical order if required. Many users will find this a useful way of storing telephone numbers, addresses and so on.

### Wordit

Home Office is a simple package which will serve its purpose if you haven't much money to spend, although it has none of the sophisticated features of the up-market wordprocessors. Around the top edge is a pane in the menu bar also dubious whether anyone would pay upwards of £200 for a printer, another have all the go to the cost of wordprocessing (examples: 10 wordprocessors). Much as I applaud the efforts of Autodesk in bringing out a cheap wordprocessor, this package makes simple tasks difficult and I cannot help but feel that it will fail by the way.

	Word	Word	Word	Word	Word	Word
Directory	Yes	Yes	Yes	Yes	Yes	Yes
Custom	Yes	Yes	Yes	Yes	Yes	Yes
Other WP features		Yes	Yes		Yes	
Editing Features						
Search	Yes	Yes	Yes	Yes	Yes	
Search again	Yes	Yes			Yes	
Window						
Search and Replace	Yes	Yes	Yes	Yes	Yes	
Macro & mail	Yes	Yes	Yes	Yes		
Macro & mail	Yes					
Block copy	Yes	Yes	Yes	Yes	Yes	
Block move	Yes	Yes	Yes	Yes	Yes	
Block paste	Yes	Yes	Yes	Yes	Yes	
Printing Features						
Character	Yes	Yes	Yes	Yes	Yes	Yes
Word					Yes	Yes
Text						
Page		Yes	Yes	Yes		
Line	Yes	Yes	Yes	Yes	Yes	
System						
Printing Features						
Character	Yes	Yes	Yes	Yes	Yes	Yes
Word			Yes	Yes	Yes	
Text						
Paragraph					Yes	
Page		Yes				
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro						
Formatting						
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
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Character	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
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Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
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Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
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Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
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Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes	Yes	Yes	Yes
Text	Yes	Yes	Yes	Yes	Yes	Yes
Paragraph	Yes	Yes	Yes	Yes	Yes	Yes
Page	Yes	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes	Yes
Macro	Yes	Yes	Yes	Yes	Yes	Yes
Formatting	Yes	Yes	Yes	Yes	Yes	Yes
Character	Yes	Yes	Yes			

# WORDPROCESSORS

through the background and character colors are fixed. As in Wordcraft 40, the Run/Stop key toggles between the type and command modes. Using command mode you are able to set up the format of your document and then, along with the same data page and chapter appears on the top five lines of each page. Typing and editing are fairly straightforward, the CEM keys being used to enter editing commands. There are a large number of facilities available for moving the cursor around the text and screen (if you can remember them). I liked the speed of multiple search and replace features, but it would have been nice if there had been a global search and replace facility as well. All editing controls may be checked using the CEM key and "C" and then deleted before printing is required.

The Wordcraft user appears at the top

will print out the whole document without the user loading each screen manually. Wordcraft will load Chapter 1 of a specified document, print it out, automatically load chapter 2, print that section on, thus a single document could have over 170,000 characters (25-30000 words). The manual boasts that Wordcraft allows you to produce back-up disks and copy files but this is only possible on double drive systems, and it would not apply to most users.

Printing is made easy by the large number of Print Definition Files which are supplied in the Wordcraft disk. These files define the commands to justify individual portions and all you have to do is choose the file for your particular printer. Thus, with more advanced printing facilities such as proportional spacing, immediately available if you're feeling

fring (although it may be out of reach and is pretty dreadful anyway) you are informed that you must press the return key to leave Help but if the down-road page one of yes Help. (The correct key to press is Run/Stop).

## Verdict:

A very compatible package which will no doubt appeal to the more experienced user. It needs debugging, however before it can be fully recommended.

## DATAVIEW

**Annotations:**

- You gain the cursor and information on the current document.
- You change the data and the data is stored in the data file.
- With Dataview you can enter data into the data file.
- You can change the data and the data is stored in the data file.
- You can change the data and the data is stored in the data file.

**Table Data:**

NAME	AGE	GENDER
John Smith	25	M
Jane Doe	30	F
Bob Johnson	35	M

**Bottom Line:** Dataview Wordcraft is a good way to use and offers a good range of facilities, but suffers from several serious bugs. We don't recommend it until these are fixed.

of the screen as a darker coloured line indicating the current position of the margin and text. Accompanying the CEM and "C" the user allows you to set tabs and margins and then change their position without reformatting the text. Some time to get to grips with the versatility of the user and level of explanation in the manual, but I appreciated the quick response in reformatting (tabbed columns of text, of some size) in a similar manner to the format line in Visawrite. Unlike Visawrite, Wordcraft does not require a character space for the tab character but highlights the text later following the tab.

Tab handling is easy and there are several extra commands which open the range of uses of Wordcraft. An important feature of Wordcraft is its ability to treat chapters of a document as separate named and numbered files. Inserting a chapter between other chapters of a multi-chapter document is a result of the tab character but highlights the text later following the tab.

more adventurous you may prefer to edit a pre-defined printer file or create your own in order to print the special functions of a non-standard printer. This is a facility which, among the wordprocessors reviewed here is unique to Wordcraft and makes this a very versatile package.

As the table shows, Wordcraft is a very powerful wordprocessor with many facilities to command it. However, I have some important concerns to make regarding its tendency to lock out. I was frustrated to see that, in addition to the "File not found" message, the program crashed if an incorrect CEM command was entered. This also happened with a correct command. In fact, I got utterly sick of re-loading Wordcraft after its repeated locking out until I eventually discovered that pressing the space bar sometimes recovered the program. There is also an irritating inconsistency which spoils an otherwise useful help facility. Apart from the fact that the manual explains every-

### Y64 DATACARD

NAME: Dataview Wordcraft

PRICE: £20.00

REMARKS: Dataview Wordcraft

DATE: 02/06/84

NAME	AGE	GENDER
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

REMARKS: £ 49.00

## Visawrite Visa Soft

Visawrite is Visa Software's disk-based wordprocessor for the Commodore 64. It is available from a number of sources but this review copy came from Visa Software and included a copy of the Visawrite User's Guide for an inclusive price of £10.

Easy Script and Visawrite are of a very similar standard with the major difference — Visawrite has no screen formatting. That is commands such as centering a heading are carried out by you type them. (Formatting with Easy Script involves processing the input file it has been typed in). However Visa has chosen to do as right justification is not carried out until the final printout, though it is possible that this reduces the amount of on-screen editing that goes on as you type. The most useful application of on-screen formatting is undoubtedly the manipulation of margins and it is a pity that Visawrite supplies an unlimited number of formatting lines which can be spread throughout your work. These lines may include tab symbols if after the table is completed all you have to do is insert a couple of spaces in the appropriate position on the format line and the whole table spreads out





01-430 0954

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

[illegible]

Figure 1. The study area.

Supermarket — Multiphase 3rd	all	12,000 00
Residential — Heavy Duty/Highway	r	1,000 00
Residential — Medium-Duty/Commercial	r + d	1,000 00
Freightliner — Freightliner 64	all	1,000 00
Freightliner — Freightliner 64	n	1,000 00
Supermarket — Superette 1	d and r	1,000 00
Supermarket — Residual 3	n	1,000 00
High-Density — Workhorse	all and r	1,000 00

100

Monday, 11 April 2011 12:39 PM

[illegible]

81 — Property 81	d	1981-81
Simple — Simple 81	d	1981-81
81 — Property 81	d	1981-81
81 — Property 81	d	1981-81

1000

[illegible]

Age Group	Very important	Important	Somewhat important	Not important	Don't know
18-24	45%	35%	15%	5%	0%
25-34	40%	35%	15%	10%	0%
35-44	35%	35%	20%	10%	0%
45-54	30%	35%	25%	10%	0%
55-64	25%	35%	30%	10%	0%
65+	20%	35%	35%	10%	0%

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

FB	Flight duration	Survival	2007-08
Antarespinae	4-6 hr Flight	all	100.00
Halictidae	Flight duration > 6 hr	all	100.00
Empidonax	Intermediate Flight	all	100.00
Empidonax	Intermediate Flight	0	0.00
Antarespinae	Swiftness days	all	100.00
Antarespinae	Swiftness days	0	0.00

100

Management — Public Communication	2	100.00
Publications — Public Communication	1	100.00
SW — Administration	1	100.00
SW — English	1	100.00
SW — Geographic	1	100.00
SW — Health SW	1	100.00
Research — Classification/Reference	1	100.00

[illegible]

Membership — Spanish (Conversational)	af	600	60
Membership — Spanish (Basic lessons)	af	600	60

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**Abstract**

Category	Item	Value	Unit
Total	...	...	...
	...	...	...
	...	...	...
	...	...	...
Subtotal	...	...	...
	...	...	...

[illegible][illegible]

100

## WORDPROCESSORS

## VISA WHITE

Shower in by the  
early morning to  
sweat out  
toxins.  
Exercising  
throughout the  
week will be  
best for your skin.

**What you should know**  
 • The first step is to identify the problem.  
 • The second step is to define the problem.  
 • The third step is to analyze the problem.  
 • The fourth step is to develop a solution.  
 • The fifth step is to implement the solution.  
 • The sixth step is to evaluate the solution.

*Firewalk* is an excellent "package" held down by a few minor problems and one technical one. It is, however, highly recommended for a reading and riding package.

**Flagrant**  
Many owners will  
then, edge on the  
system and under  
take the path of  
the least possible  
confrontation, as  
the least cost  
means the right  
kind of work at the

**RECEIVED**

documents. The logic of a flat file format mechanism means that each new file must start on a new page (without a great deal of effort) and that everyone wants to continue page numbering from the previous file as subject to all the problems just described.

My second gripe is that Vaseline does not protect itself from the well-known bug in the 1540-1 disk drive. This means that my attempt to retrieve a file from a disk that is almost half empty, is result in corruption of the whole disk. This has now happened to me at least three times. But I now only send out my copy of Vaseline for producing labels at which is not very good. To anyone using Vaseline regularly I suggest that they make sure that they never allow their disks to fill up. To be safe I would use a new disk after every fill. This does not occur with Easy Script (Commodore) is seriously better in its own right, and I have not experienced it with any of the other software. [volunteer@compuserve.com](mailto:volunteer@compuserve.com)

1000

Wireless would be a superb package if the bugs were ironed out and automatic paging and file linking were added. As a Windowser, I can't really be recommended

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 395–402

Use of the wordprocessor is fairly standard. Full screen editing, full screen control and four-directional scrolling are provided. Though numeric scrolling is a little clumsy. Only a couple of editors — delete, delete forwards which takes a lot of getting used to, and the cursor characters are produced by first pressing CONTROL and then the appropriate key rather than both together. There is no automatic page/section — the user has to decide where the end of each page should be.

All commands are included with the controllerCommandone key. Again these are strangled - copy text, move text, copy commands, search, goto page, merge documents, global edit, automatic page numbering, and so on. Full text merge facilities are available.

Special printer information and worksheet pages are issued and will be automatically served with each document. These printer type lines-per-inch justification required and even document colour. Compatible printers are IBM PC, Epson, Gamma, Datsko, Sprinter, Triumph-Adler and Ricoh. Floerster and there are options for most special features. Compatible interfaces are RS232C, Floerster, parallel, Microsoft, and

**Final suggestion:** The suggested **Predict** row for current year.

Windows comes with an eight-page Fitpage Ad manual, and Fitpage will supply a backup copy of the disk for CE. Also included is a spreadsheet backup utility (it won't, however, copy Windows!) and a program for driving a Centronics parallel interface from BASIC.

Unzipped, came on the same disk, but can be backed up. It consists of a 20,000 word English language dictionary and associated spelling checker.

So, if from right to left, it seems to be an excellent piece of software. However, there are two major reasons why I would not recommend this package. Firstly, the lack of both an automatic paging facility and a full file linking mechanism renders the production of long documents tedious beyond belief. Second pages must be manually placed throughout a document. This can take a fair while and is an arduous process. If it is then necessary to add a page of text near the beginning of the document, all the paging is messed up. You then have to go through the document being all the forced pages, then again inserting a new lot. This is made all the more mind boggling by the fact that the system does "down" as much, when editing, as "up" the front end of a job.



## WORDPROCESSORS

### SCORE CHART

	Exp Script	Weeks	Weekend	Weekend MO	Cash Break Pts	Points Gains
Available at	7	7	8	7	7	3
Availability	8	10	9	7	8	3
Notability	10	7	9	8	7	8
Services	8	8	8	7	8	4

## BEST OF THE BEST

201 (copying) and 202 (other) these are the  
 employees and in the month of...  
 Here are just too many... (I don't know)  
 Here worth checking out before you  
 make that all important decision for  
 World Pro - 234 95 US Gold (Tel: 821-  
 361 3000) Mexico (Tel: 224 95,  
 Australia: (Tel: 0734 604666)  
 Paperback - 234 95 - Denton Inc.  
 World Processing - 231 95 Total Inc.  
 Asia Motor - 229 95 - Asia (Mexico -  
 234 95 - Hawaii and Tax Plus -  
 Insurance





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- Spare the use of colour and sound under this sophisticated product easy to use
- We believe this 100% machine code copier is unrivalled in performance
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- Highest sound effects. Cassette tape error
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BRITH, KENT DA8 2AL



# SCRATCHPAD

In this month's Scratchpad we provide the final three demonstration programs for Brian Rushby's windowing routine, and Mike Hart presents an extremely handy routine for plotting in medium resolution.

## UP SCROLL

```

100 REM *****UP SCROLL*****
110 REM *****
120 REM *****
130 REM *****
140 REM *****
150 REM *****
160 REM *****
170 REM *****
180 REM *****
190 REM *****
200 REM *****

```

Lines 100-190 Defines variables used to PRINT merge scrolling

```

210 POKESCROLL=14:POKESCROLL=1

```

Line 210 Sets border and screen colours

```

220 PRINT "UP"
230 PRINT "DOWN"

```

Lines 240-250 Clears screen and PRINT's status

```

240 INPUT "ENTER INPUT RIGHT HERE IN 1-40"
250 IF (1) THEN PRINT "*****UP SCROLL*****"
260 IF (2) THEN PRINT "*****DOWN SCROLL*****"
270 IF (3) THEN PRINT "*****SCREEN WASH*****"
280 IF (4) THEN PRINT "*****LEFT SCROLL*****"
290 IF (5) THEN PRINT "*****RIGHT SCROLL*****"
300 PRINT "ENTER INPUT LEFT HERE IN 1-40"
310 INPUT "ENTER INPUT LEFT HERE IN 1-40"
320 IF (1) THEN PRINT "*****UP SCROLL*****"
330 IF (2) THEN PRINT "*****DOWN SCROLL*****"
340 IF (3) THEN PRINT "*****SCREEN WASH*****"
350 IF (4) THEN PRINT "*****LEFT SCROLL*****"
360 IF (5) THEN PRINT "*****RIGHT SCROLL*****"
370 PRINT "ENTER INPUT LEFT HERE IN 1-40"
380 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
390 PRINT "ENTER INPUT LEFT HERE IN 1-40"
400 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
410 PRINT "ENTER INPUT LEFT HERE IN 1-40"
420 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
430 PRINT "ENTER INPUT LEFT HERE IN 1-40"
440 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
450 PRINT "ENTER INPUT LEFT HERE IN 1-40"
460 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
470 PRINT "ENTER INPUT LEFT HERE IN 1-40"
480 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
490 PRINT "ENTER INPUT LEFT HERE IN 1-40"
500 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
510 PRINT "ENTER INPUT LEFT HERE IN 1-40"
520 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
530 PRINT "ENTER INPUT LEFT HERE IN 1-40"
540 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
550 PRINT "ENTER INPUT LEFT HERE IN 1-40"
560 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
570 PRINT "ENTER INPUT LEFT HERE IN 1-40"
580 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
590 PRINT "ENTER INPUT LEFT HERE IN 1-40"
600 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
610 PRINT "ENTER INPUT LEFT HERE IN 1-40"
620 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
630 PRINT "ENTER INPUT LEFT HERE IN 1-40"
640 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
650 PRINT "ENTER INPUT LEFT HERE IN 1-40"
660 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
670 PRINT "ENTER INPUT LEFT HERE IN 1-40"
680 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
690 PRINT "ENTER INPUT LEFT HERE IN 1-40"
700 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
710 PRINT "ENTER INPUT LEFT HERE IN 1-40"
720 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
730 PRINT "ENTER INPUT LEFT HERE IN 1-40"
740 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
750 PRINT "ENTER INPUT LEFT HERE IN 1-40"
760 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
770 PRINT "ENTER INPUT LEFT HERE IN 1-40"
780 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
790 PRINT "ENTER INPUT LEFT HERE IN 1-40"
800 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
810 PRINT "ENTER INPUT LEFT HERE IN 1-40"
820 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
830 PRINT "ENTER INPUT LEFT HERE IN 1-40"
840 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
850 PRINT "ENTER INPUT LEFT HERE IN 1-40"
860 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
870 PRINT "ENTER INPUT LEFT HERE IN 1-40"
880 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
890 PRINT "ENTER INPUT LEFT HERE IN 1-40"
900 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
910 PRINT "ENTER INPUT LEFT HERE IN 1-40"
920 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
930 PRINT "ENTER INPUT LEFT HERE IN 1-40"
940 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
950 PRINT "ENTER INPUT LEFT HERE IN 1-40"
960 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
970 PRINT "ENTER INPUT LEFT HERE IN 1-40"
980 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
990 PRINT "ENTER INPUT LEFT HERE IN 1-40"
1000 PRINT "ENTER INPUT RIGHT HERE IN 1-40"

```

Lines 100-140 Input merge positions (see below)

```

110 POKESCROLL=14:POKESCROLL=1
120 POKESCROLL=14:POKESCROLL=1
130 POKESCROLL=14:POKESCROLL=1
140 POKESCROLL=14:POKESCROLL=1

```

Line 140 Press merge position to machine code

```

150 POKESCROLL=14:POKESCROLL=1

```

Line 150 Set screen to 32 row mode

```

160 POKESCROLL=14:POKESCROLL=1

```

Line 160 Set scrolling register to maximum

```

170 POKESCROLL=14:POKESCROLL=1

```

Line 180 Clear screen and PRINT's scrolling

```

190 POKESCROLL=14:POKESCROLL=1

```

Line 190 Clear screen and PRINT's scrolling

```

200 POKESCROLL=14:POKESCROLL=1

```

Line 200 Calculates window position for graphs

```

210 POKESCROLL=14:POKESCROLL=1

```

Line 210 POKESCROLL=14:POKESCROLL=1

```

220 POKESCROLL=14:POKESCROLL=1

```

Line 220 POKESCROLL=14:POKESCROLL=1

```

230 POKESCROLL=14:POKESCROLL=1

```

Line 230 Continues in a loop

Now load and run as above, and determine the correct margins required. Then press enter at your own program. 1) Set the value of the variable scroll to 150. Use the value of your program instead of the variable. 2) Set the screen to 32 row mode. 3) Set the scrolling register to its maximum. 4) Clear the area for new data. 5) Enter the new data. 6) Press enter.

When scrolling, data must be POKESCROLL to the bottom of the screen. You must include a POKESCROLL, this is a range return and is executed with the cursor on the bottom line, otherwise you'll get a standard scroll.

## LEFT SCROLL

```

100 REM *****LEFT SCROLL*****
110 REM *****
120 REM *****
130 REM *****
140 REM *****
150 REM *****
160 REM *****
170 REM *****
180 REM *****
190 REM *****
200 REM *****

```

Lines 100-190 Defines variables used to PRINT merge scrolling

```

210 POKESCROLL=14:POKESCROLL=1

```

Line 210 Sets border and screen colours

```

220 PRINT "LEFT"
230 PRINT "RIGHT"

```

Lines 240-250 Clears screen and PRINT's status

```

240 INPUT "ENTER INPUT LEFT HERE IN 1-40"
250 IF (1) THEN PRINT "*****LEFT SCROLL*****"
260 IF (2) THEN PRINT "*****RIGHT SCROLL*****"
270 IF (3) THEN PRINT "*****SCREEN WASH*****"
280 IF (4) THEN PRINT "*****LEFT SCROLL*****"
290 IF (5) THEN PRINT "*****RIGHT SCROLL*****"
300 PRINT "ENTER INPUT LEFT HERE IN 1-40"
310 INPUT "ENTER INPUT LEFT HERE IN 1-40"
320 IF (1) THEN PRINT "*****LEFT SCROLL*****"
330 IF (2) THEN PRINT "*****RIGHT SCROLL*****"
340 IF (3) THEN PRINT "*****SCREEN WASH*****"
350 IF (4) THEN PRINT "*****LEFT SCROLL*****"
360 IF (5) THEN PRINT "*****RIGHT SCROLL*****"
370 PRINT "ENTER INPUT LEFT HERE IN 1-40"
380 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
390 PRINT "ENTER INPUT LEFT HERE IN 1-40"
400 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
410 PRINT "ENTER INPUT LEFT HERE IN 1-40"
420 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
430 PRINT "ENTER INPUT LEFT HERE IN 1-40"
440 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
450 PRINT "ENTER INPUT LEFT HERE IN 1-40"
460 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
470 PRINT "ENTER INPUT LEFT HERE IN 1-40"
480 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
490 PRINT "ENTER INPUT LEFT HERE IN 1-40"
500 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
510 PRINT "ENTER INPUT LEFT HERE IN 1-40"
520 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
530 PRINT "ENTER INPUT LEFT HERE IN 1-40"
540 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
550 PRINT "ENTER INPUT LEFT HERE IN 1-40"
560 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
570 PRINT "ENTER INPUT LEFT HERE IN 1-40"
580 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
590 PRINT "ENTER INPUT LEFT HERE IN 1-40"
600 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
610 PRINT "ENTER INPUT LEFT HERE IN 1-40"
620 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
630 PRINT "ENTER INPUT LEFT HERE IN 1-40"
640 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
650 PRINT "ENTER INPUT LEFT HERE IN 1-40"
660 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
670 PRINT "ENTER INPUT LEFT HERE IN 1-40"
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720 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
730 PRINT "ENTER INPUT LEFT HERE IN 1-40"
740 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
750 PRINT "ENTER INPUT LEFT HERE IN 1-40"
760 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
770 PRINT "ENTER INPUT LEFT HERE IN 1-40"
780 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
790 PRINT "ENTER INPUT LEFT HERE IN 1-40"
800 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
810 PRINT "ENTER INPUT LEFT HERE IN 1-40"
820 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
830 PRINT "ENTER INPUT LEFT HERE IN 1-40"
840 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
850 PRINT "ENTER INPUT LEFT HERE IN 1-40"
860 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
870 PRINT "ENTER INPUT LEFT HERE IN 1-40"
880 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
890 PRINT "ENTER INPUT LEFT HERE IN 1-40"
900 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
910 PRINT "ENTER INPUT LEFT HERE IN 1-40"
920 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
930 PRINT "ENTER INPUT LEFT HERE IN 1-40"
940 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
950 PRINT "ENTER INPUT LEFT HERE IN 1-40"
960 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
970 PRINT "ENTER INPUT LEFT HERE IN 1-40"
980 PRINT "ENTER INPUT RIGHT HERE IN 1-40"
990 PRINT "ENTER INPUT LEFT HERE IN 1-40"
1000 PRINT "ENTER INPUT RIGHT HERE IN 1-40"

```







# SCRATCHPAD

## Medium-Resolution Plotting

ON THE 68 you can literally get the effects of two graphics modes. The first is the low-resolution character plot. In this mode you simply PLOT or PLOTX (with graphics character) to the screen, giving a resolution of 256x64. The second is high-resolution (bit-mapped) mode, where you have a resolution of 512x256. But there are times when it would be useful to have something between these two extremes: a medium-resolution plot. The program, by default, HPL provides this facility — giving a resolution of 512x512. A glance through the History of IBM Graphics Translators reveals that they are composed of various colored bits of quarter-squares. These are reproduced below together with their PLOTX/PLOT codes. Each character has been numbered 0-15 and we'll refer to the character by this number from now on.

These quarter-square graphics characters form the basis of our medium-resolution plot. We first determine which quarter-square (or quarter-squares) we require. Having determined that, we must now take into account whatever other characters are present in the other three quadrants to avoid overwriting graphics already present on the screen. To do this, we must — fairly simply if there is a graphic character already present in the quadrant with to plot to and, thus, indirectly its table number — normally do an inclusive or of the quadrant we wish to plot with the character already present in the screen. This gives us the table number of the new character that should be plotted to the screen.

An example will make this clear. Suppose we want to plot graphic character 2, in the top-left corner of the screen. When we PLOTX (2) to the plot, then the already-occupied bit is set by character 4; we now perform an inclusive OR of character 2 (00 pattern 00000011) with character 4 (01 pattern 00001000). An inclusive-or means a 1 in either of the bits-plus 1 and hence it gives us the exclusive-or of the two characters as 00001110.

An inspection of the table below reveals that character 6

is indeed the combination of characters 2 and 4. Therefore we know that we need a PLOTX 107 to screen to plot our entire picture while retaining the one that is already there. Using the example you see that it is possible to determine whether a character you want to PLOT to the screen is already displayed (on the screen) and the character you want to plot. The same principle is used in both the basic and machine code versions of the medium-resolution plot.

### The Basic Program

In the basic program, we now have a plotter in a resolution of 4096. The program first determines the quadrant in which the quadrant that we want to plot will fall. Having determined this, we then work out whether the quadrant falls in the upper or lower half, and on the left or right side of the screen. A glance at the diagrams below will show how this is worked out.



8 and 9 horizontal and a value usually divided by 2 with no remainder. The plot will fall in the left-hand side of the screen. Hence when it is 0, 2, 4 and 6, we will fall on the left-hand side and odd numbers on the right. By a similar logic, we determine whether the vertical axis value will fall on the upper or lower half of the screen. Then these characters are plotted out into which we plotted point is 0. Having determined the quadrant, then a value is calculated as a small 2x2 look-up table containing the values of 4, 8, 1 and 2. These values OR-ed with the bit using table position of the character PLOTTed from the screen, give the table position of the new character to PLOTX back to the screen. Below is the routine where PLOTX is used and then UNPLOTX. This is determined by the value of 1 which PLOTX when equals zero but UNPLOTX when both negative. One is 1 in the second half of the 11.6. This code is used in the second statement of line 1000, means the screen graphics character is plotted, which is coded before the PLOT.

### Plotting individual points with MEDIUM-RES (HPL)

If you want to experiment with the program to PLOT individual points on the screen, after you've seen the demo, remember that you need to access the color memory at the same time. In order that you can obtain each bit page, try the following:

```

PLOT=000, 000000, 000
UNPLOT=000, 000, 000
PLOT=000, 000, 000
UNPLOT=000, 000, 000
PLOT=000, 000, 000
UNPLOT=000, 000, 000

```



This assumes the normal graphics character in which the color (0-25) is in the bottom left-hand corner with the y axis increasing the vertical and the x-axis the horizontal. Here, you might wish to think of the character as either PLOTX (x y) or UNPLOTX (horizontal/vertical/depth) plotting.

As it is a color character, you can use the color memory to plot individual points.

By using the color memory, you can plot individual points in color.

PRG/PRG	00	001	002	003	004	005	006	007
TABLE NO.	0	1	2	3	4	5	6	7
PRG/PRG	008	009	010	011	012	013	014	015
TABLE NO.	8	9	10	11	12	13	14	15

The 16 characters used from the basis of medium-resolution plotting.

### A detailed break-down of MEDIUM-RES PLOT (HPL)

#### 100. PLOTX, UNPLOTX, PLOT, UNPLOT

Use 100 to plot individual points on the screen.

```

100. PLOT=000, 000, 000
UNPLOT=000, 000, 000
PLOT=000, 000, 000
UNPLOT=000, 000, 000

```

Use 100 to plot individual points on the screen.

```

100. PLOT=000, 000, 000
UNPLOT=000, 000, 000
PLOT=000, 000, 000
UNPLOT=000, 000, 000

```

Use 100 to plot individual points on the screen.

#### 100. PLOT, UNPLOT, PLOT, UNPLOT

Use 100 to plot individual points on the screen.

```

100. PLOT=000, 000, 000
UNPLOT=000, 000, 000
PLOT=000, 000, 000
UNPLOT=000, 000, 000

```

Use 100 to plot individual points on the screen.

#### 1000. PLOT, UNPLOT, PLOT, UNPLOT

Use 1000 to plot individual points on the screen.





## SCRATCH PAD

[illegible][illegible][illegible]

Using **WEEK** to locate specific values of the **order** before going to **order**  
 (Compare the **order** value to the **order** value) **order** is used to see  
 the **order** value.

1. 图 1-1-1 所示为某工程项目的网络图，请计算该工程项目的总工期。

Long 1948 includes 10% left value of common character and some question-graphic character. Value 1 is character class 1 100 000 (Long 1948).

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Less than 10% of the nearly 100,000 graphics cards that have been sold in the second half of 2003 are capable of running the new games.

Source: <http://www.fishbase.org>

© 2004 All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without permission in writing from the publisher.

```

1000 PRINT INPUT"ACROSS THE"
1010 PRINT INPUT"REN COLUMN"
1020 PRINT INPUT"THE NUMBER C.O. C."
1030 FOR C=0 TO 9:FOR L=0 TO 9

```

**Lines: 2000-2400** Lines determine the background and grid parameters for the PLOD and Shaded Plot functions to determine the shape of the Leaseport figure will also be plotted. The background colour is PGM300 in the equation for the background and grid, and the colour-maps are outlined.

[illegible]

**Line 4000** for PLOT equation: The general syntax is PLOT, PLOTP, where PLOTP is either 0 (PLOT) or 1 (PLOT). Values outside this range will not be printed. Associate color memory with a PLOT, PLOTP before plotting individual records.

[illegible][illegible]

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 399–406

[illegible]

Line 10-11-1200 Service as the duty for the machine code number

## MEDIUM-RESOLUTION CHECKSUM

[illegible]

**MICRO CENTRE**  
1286 PERTHSHIRE ROAD,  
COTTRELLS, BIRMINGHAM  
Tel: 021 258 8844

## KEYBOARD KAPERS

The month's Keyboard Report introduced IBM's simple error-checking system -- to instantly detect typing errors when a person hits a key.

## How to train the T&E Network

We know that typing in program listings can be time-consuming and often frustrating activity. For this reason, we're constantly looking at new ways to make the task as simple and painless as possible.

Why we share this recipe with 200 pending interns at 40 colleges is that when you are in the *Magazine*, it's about you. Although you can't change it, in this issue, we've introduced new new ideas. The first is a unique key to the characters that often confuse readers here. Anything you demand is a mean-end character you're not sure how to write, and control your own submission day.

Therese's idea, which will be useful to beginners and experts alike, is a system to detect typing mistakes instantly — the NO-*Chinkajung* program.

Just type in the Checksum listing below and (KILL) icon type or click. This every time you want to type in a file listing, follow this simple steps.

1. LOAD and RUN the Checksum program
2. Type in a line of the listing
3. Press ENTER to read the line. A number will be displayed

These results indicate that the use of the proposed method is effective for the detection of the change points in the time series.

4. Looking at the line number in the Checkouts Table printed underneath the label, if the number after the comma is the same as the number in the corner of your screen, carry on (if not, you've made a mistake in the line). Correct it and move onto the next line number in step 3.

For example, if you've entered line 10 and got 87 in the corner of your screen, look up 10 in the Checksum Table: if you find "10:87", you know the line is correct; if the number after the comma is different from the number in the corner of your screen, you've typed it in wrongly. In the same way, if you find (20:202) in the Checksum Table, you know that 202 should appear in the corner of your screen when you enter line 20.

All future PGE ratings within in standard VOT track will have a Checksum Table.

The Checksum Program contains a built-in error-detection system — if you make a mistake in the DATA statements, the program itself will tell you exactly how the mistake is, so that you can fix it.

Will begin your first free system's update in the nearness of you have any suggestions about how we should handle highly specific issues? We'll be in touch.

#### T64 CHECKSUM PROGRAM

```

00 PRINT_PLEASE WAIT. *****
0100
0200 PRINT_PLEASE OFFEND YOU DESERVED.
0300 PRINT_PLEASE BY YOUR PROGRAMMING.
0400 PRINT_PLEASE ANSWERS TO EACH OTHER.
0500
0600 PRINTOFF, ALWAYS TURN OFF BEFORE
0700 ON
0800 PRINTLOADED "
0900 THE PRINT OFF PC IS AVAILABLE TO THE NEXT
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
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7200
7300
7400
7500
7600
7700
7800
7900
8000
8100
8200
8300
8400
8500
8600
8700
8800
8900
9000
9100
9200
9300
9400
9500
9600
9700
9800
9900

```

[illegible]

## T64 QUICK-REFERENCE KEY TO CONTROL CHARACTERS

4	(COL+HORG)	00	(F0)	70	(STBL) + (F0)	33	(S-1)	+ (F1)
17	(SHIFT) - (COL+HORG)	00	(SHIFT) + (F0)	60	(STBL) + (F0)	00	(S-1)	+ (F0)
18	(UP-DOWN CHRG)	00	(F0)	00	(STBL) + (F0)	00	(S-1)	+ (F0)
19	(SHIFT) - (UP-DOWN CHRG)	00	(SHIFT) + (F0)	00	(STBL) + (F0)	00	(S-1)	+ (F0)
20	(LEFT+RIGHT CHRG)	00	(F0)	20	(STBL) + (F0)	20	(S-1)	+ (F0)
21	(SHIFT) - (LEFT+RIGHT CHRG)	00	(SHIFT) + (F0)	20	(STBL) + (F0)	00	(S-1)	+ (F0)
22	(F1)	00	(STBL) + (F1)	00	(STBL) + (F0)	20	(S-1)	+ (F1)
23	(SHIFT) - (F1)	00	(STBL) + (F1)	00	(STBL) - (F0)	20	(S-1)	+ (F1)

64

CONGRUENT-REPRESENTATION:  $\text{CONGRUENT-REPRESENTATION} = \text{CONGRUENT-REPRESENTATION} \text{ AND } \text{CONGRUENT-REPRESENTATION}$

Typing in listings can seriously damage your unit. Always use the Y64 Checksum system supplied in Keyboard Keys. Type in listings from other machines at your own risk.





# Y64 COMPETITION

## WORD BUSTIN'

I ain't afraid of no ghost... *ah!*  
Ghostbuster fever has struck Britain. Sooner or later you'll go anywhere without seeing the film, hearing the record or finding someone playing the game. And in case you haven't got your copy of the game yet, here's your chance to do so completely free of charge!

### Spot These Games!

All you have to do to be in with a chance of winning your own copy of the game of the film... and maybe a whole lot more besides... is to solve a jungle wordquest! Activision has hidden several of its software titles in the wordquests below (we're not telling you how many!). Each title can read forwards backwards up down or diagonally in any of four directions (of course). All you have to do is to circle each one you find. When you think you're finished all the titles simply complete the tie-breaker question in a witty and original way. *Good luck!*

### Tie-breaker

Please complete the following tie-breaker using not more than 15 words: **"I want to go Ghostbuster because..."**

Don't forget to answer as wittily as possible if you want to be the top winner!

### The Bounty

The person to find all the titles and complete the tie-breaker in the widest wing will win a 1500 disk drive, all of Activision's C&M 64 titles to date (including all copies Ghostbusters plus a lifetime subscription to Activision's 64 software! Every time Activision releases a new title for the 64 one of the very first copies will be rushed to you with the company's compliments).

Plus third prize winners will each receive ten Activision titles. And 100 runners-up will win a copy of Ghostbusters special!

Activision has been producing popular 64 titles on both cassette and disk since last year — and Ghostbusters looks like it could well be one of Activision's most successful titles! The company's other 64 software includes



• He-Man • Exorcion • Designer's Period • H.E.R.O. • Patrol • Patrol II • Power Roid • Space Shuttle • Toy Soldiers • Comp

### How to enter

Simply circle or highlight the hidden titles, complete the tie-breaker and fill in your name and address. Write the total number of titles found on the outside of your envelope and send your entry to: 604 Ghostbusters Company, 74 Hatfield Place, London W9P 0GE.

#### Instructions

1. The solution of the puzzle is found by cross-referencing all the instructions.
2. Letters which are located outside of the puzzle are not to be used.
3. All answers must be in lowercase and may be subject without further permission.
4. All entries must be received by March 20th. Entries after this date will not be considered.





**B**ASIC  
LIGHTNING

**W**HITE  
LIGHTNING

**M**ACHINE  
LIGHTNING

# LIGHTNING STRIKES AGAIN

**THE BASIC LIGHTNING**  
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```

070000 *****
070040      " - T E M A L I N E - S H O U T
070080 *****
070100      ONCOTU17044, 17079 17149 17176 171
070120      17178, 17179
070140      PGM - CLAYCO - BONEHILL LINE
070160      IF C=0, GO TO 070200; ELSE GO TO 070180; L = 0; GO TO 070180
070180

```

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Linear T-FCM-TCCM (b-values match line and response accordingly)

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Y64 CHECKSUM TABLE: 3D O<sub>2</sub> & X<sub>2</sub>

= 7 (1) 解法 1: 设  $x = 1$  (1) 得  $1 = 1$ , 即  $1 = 1$ , 故  $x = 1$  是方程的解, 设  $x = 2$  (2) 得  $2 = 2$ , 故  $x = 2$  是方程的解, 设  $x = 3$  (3) 得  $3 = 3$ , 故  $x = 3$  是方程的解, 设  $x = 4$  (4) 得  $4 = 4$ , 故  $x = 4$  是方程的解, 设  $x = 5$  (5) 得  $5 = 5$ , 故  $x = 5$  是方程的解, 设  $x = 6$  (6) 得  $6 = 6$ , 故  $x = 6$  是方程的解, 设  $x = 7$  (7) 得  $7 = 7$ , 故  $x = 7$  是方程的解, 设  $x = 8$  (8) 得  $8 = 8$ , 故  $x = 8$  是方程的解, 设  $x = 9$  (9) 得  $9 = 9$ , 故  $x = 9$  是方程的解, 设  $x = 10$  (10) 得  $10 = 10$ , 故  $x = 10$  是方程的解, 设  $x = 11$  (11) 得  $11 = 11$ , 故  $x = 11$  是方程的解, 设  $x = 12$  (12) 得  $12 = 12$ , 故  $x = 12$  是方程的解, 设  $x = 13$  (13) 得  $13 = 13$ , 故  $x = 13$  是方程的解, 设  $x = 14$  (14) 得  $14 = 14$ , 故  $x = 14$  是方程的解, 设  $x = 15$  (15) 得  $15 = 15$ , 故  $x = 15$  是方程的解, 设  $x = 16$  (16) 得  $16 = 16$ , 故  $x = 16$  是方程的解, 设  $x = 17$  (17) 得  $17 = 17$ , 故  $x = 17$  是方程的解, 设  $x = 18$  (18) 得  $18 = 18$ , 故  $x = 18$  是方程的解, 设  $x = 19$  (19) 得  $19 = 19$ , 故  $x = 19$  是方程的解, 设  $x = 20$  (20) 得  $20 = 20$ , 故  $x = 20$  是方程的解, 设  $x = 21$  (21) 得  $21 = 21$ , 故  $x = 21$  是方程的解, 设  $x = 22$  (22) 得  $22 = 22$ , 故  $x = 22$  是方程的解, 设  $x = 23$  (23) 得  $23 = 23$ , 故  $x = 23$  是方程的解, 设  $x = 24$  (24) 得  $24 = 24$ , 故  $x = 24$  是方程的解, 设  $x = 25$  (25) 得  $25 = 25$ , 故  $x = 25$  是方程的解, 设  $x = 26$  (26) 得  $26 = 26$ , 故  $x = 26$  是方程的解, 设  $x = 27$  (27) 得  $27 = 27$ , 故  $x = 27$  是方程的解, 设  $x = 28$  (28) 得  $28 = 28$ , 故  $x = 28$  是方程的解, 设  $x = 29$  (29) 得  $29 = 29$ , 故  $x = 29$  是方程的解, 设  $x = 30$  (30) 得  $30 = 30$ , 故  $x = 30$  是方程的解, 设  $x = 31$  (31) 得  $31 = 31$ , 故  $x = 31$  是方程的解, 设  $x = 32$  (32) 得  $32 = 32$ , 故  $x = 32$  是方程的解, 设  $x = 33$  (33) 得  $33 = 33$ , 故  $x = 33$  是方程的解, 设  $x = 34$  (34) 得  $34 = 34$ , 故  $x = 34$  是方程的解, 设  $x = 35$  (35) 得  $35 = 35$ , 故  $x = 35$  是方程的解, 设  $x = 36$  (36) 得  $36 = 36$ , 故  $x = 36$  是方程的解, 设  $x = 37$  (37) 得  $37 = 37$ , 故  $x = 37$  是方程的解, 设  $x = 38$  (38) 得  $38 = 38$ , 故  $x = 38$  是方程的解, 设  $x = 39$  (39) 得  $39 = 39$ , 故  $x = 39$  是方程的解, 设  $x = 40$  (40) 得  $40 = 40$ , 故  $x = 40$  是方程的解, 设  $x = 41$  (41) 得  $41 = 41$ , 故  $x = 41$  是方程的解, 设  $x = 42$  (42) 得  $42 = 42$ , 故  $x = 42$  是方程的解, 设  $x = 43$  (43) 得  $43 = 43$ , 故  $x = 43$  是方程的解, 设  $x = 44$  (44) 得  $44 = 44$ , 故  $x = 44$  是方程的解, 设  $x = 45$  (45) 得  $45 = 45$ , 故  $x = 45$  是方程的解, 设  $x = 46$  (46) 得  $46 = 46$ , 故  $x = 46$  是方程的解, 设  $x = 47$  (47) 得  $47 = 47$ , 故  $x = 47$  是方程的解, 设  $x = 48$  (48) 得  $48 = 48$ , 故  $x = 48$  是方程的解, 设  $x = 49$  (49) 得  $49 = 49$ , 故  $x = 49$  是方程的解, 设  $x = 50$  (50) 得  $50 = 50$ , 故  $x = 50$  是方程的解, 设  $x = 51$  (51) 得  $51 = 51$ , 故  $x = 51$  是方程的解, 设  $x = 52$  (52) 得  $52 = 52$ , 故  $x = 52$  是方程的解, 设  $x = 53$  (53) 得  $53 = 53$ , 故  $x = 53$  是方程的解, 设  $x = 54$  (54) 得  $54 = 54$ , 故  $x = 54$  是方程的解, 设  $x = 55$  (55) 得  $55 = 55$ , 故  $x = 55$  是方程的解, 设  $x = 56$  (56) 得  $56 = 56$ , 故  $x = 56$  是方程的解, 设  $x = 57$  (57) 得  $57 = 57$ , 故  $x = 57$  是方程的解, 设  $x = 58$  (58) 得  $58 = 58$ , 故  $x = 58$  是方程的解, 设  $x = 59$  (59) 得  $59 = 59$ , 故  $x = 59$  是方程的解, 设  $x = 60$  (60) 得  $60 = 60$ , 故  $x = 60$  是方程的解, 设  $x = 61$  (61) 得  $61 = 61$ , 故  $x = 61$  是方程的解, 设  $x = 62$  (62) 得  $62 = 62$ , 故  $x = 62$  是方程的解, 设  $x = 63$  (63) 得  $63 = 63$ , 故  $x = 63$  是方程的解, 设  $x = 64$  (64) 得  $64 = 64$ , 故  $x = 64$  是方程的解, 设  $x = 65$  (65) 得  $65 = 65$ , 故  $x = 65$  是方程的解, 设  $x = 66$  (66) 得  $66 = 66$ , 故  $x = 66$  是方程的解, 设  $x = 67$  (67) 得  $67 = 67$ , 故  $x = 67$  是方程的解, 设  $x = 68$  (68) 得  $68 = 68$ , 故  $x = 68$  是方程的解, 设  $x = 69$  (69) 得  $69 = 69$ , 故  $x = 69$  是方程的解, 设  $x = 70$  (70) 得  $70 = 70$ , 故  $x = 70$  是方程的解, 设  $x = 71$  (71) 得  $71 = 71$ , 故  $x = 71$  是方程的解, 设  $x = 72$  (72) 得  $72 = 72$ , 故  $x = 72$  是方程的解, 设  $x = 73$  (73) 得  $73 = 73$ , 故  $x = 73$  是方程的解, 设  $x = 74$  (74) 得  $74 = 74$ , 故  $x = 74$  是方程的解, 设  $x = 75$  (75) 得  $75 = 75$ , 故  $x = 75$  是方程的解, 设  $x = 76$  (76) 得  $76 = 76$ , 故  $x = 76$  是方程的解, 设  $x = 77$  (77) 得  $77 = 77$ , 故  $x = 77$  是方程的解, 设  $x = 78$  (78) 得  $78 = 78$ , 故  $x = 78$  是方程的解, 设  $x = 79$  (79) 得  $79 = 79$ , 故  $x = 79$  是方程的解, 设  $x = 80$  (80) 得  $80 = 80$ , 故  $x = 80$  是方程的解, 设  $x = 81$  (81) 得  $81 = 81$ , 故  $x = 81$  是方程的解, 设  $x = 82$  (82) 得  $82 = 82$ , 故  $x = 82$  是方程的解, 设  $x = 83$  (83) 得  $83 = 83$ , 故  $x = 83$  是方程的解, 设  $x = 84$  (84) 得  $84 = 84$ , 故  $x = 84$  是方程的解, 设  $x = 85$  (85) 得  $85 = 85$ , 故  $x = 85$  是方程的解, 设  $x = 86$  (86) 得  $86 = 86$ , 故 <

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the 1970s, the 1980s, and the 1990s, the number of people who have been convicted of a crime has increased. This is due to a number of factors, including the fact that the justice system has become more efficient, and the fact that the public has become more aware of crime. In addition, the number of people who are arrested has increased, and the number of people who are sentenced to prison has increased. This is a trend that is likely to continue in the future.

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## CONCLUSION

1. The first step is to identify the problem. In this case, the problem is that the company is not meeting its sales targets.

FIGURE 1.1.1. A simple graph with 6 vertices and 7 edges.



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# Currah Speech 64

## Speech Synthesizer

Turn regular speech into synthesized and powerful amplifier uses the popular MP0256 AL2 speech chip and has an on-chip 16-note synthesizer. It has a text-to-speech interpreter for ease of speech output creation. Everything you wish your spoken commands in natural English without special control codes or characters. It is therefore extremely easy to use. The coding of the words is completely user transparent and the computer can carry on its normal running of a program while the speech chip is talking.

### Speech Synthesis

The Currah Speech 64 speech synthesizer utilizes part of the spoken word known as allophones. There are actual sounds that go to make up speech. The SP 0256 AL2 allophone speech synthesizer technique provides the ability to synthesise an almost unlimited vocabulary. Fifty three discrete speech sounds (allophones) and five pauses are stored in the speech chip internal ROM.

### Text to Speech

Although there are only 26 letters in the alphabet letters have a totally different sound when used in different words. For example the 'a' in Hay is much longer and softer than in Hat. When you speak you automatically make adjustments because you know how a word should sound. Not quite so easy with a computer.

The 8K byte Read Only Memory contains all the instructions necessary for the SPEECH 64 to perform all of its more advanced functions including "Key Voicing". Text-to-speech can recognise "Operating system". Having all the software on ROM means that Speech 64 is ready to use as soon as the computer is switched on. Unlike RAM, ROM is non-volatile. It retains the information inside even when the power is turned off.

The 506 gate level system chip was developed in close co-operation with General Instrument Microelectronics and tests after all the hardware functions ensuring that the SPEECH 64 and your computer communicate properly.

### Output via the T.V.

Analogue components together perform the function of turning the speech output from the SP 0256 AL2 into audio level signals that can be fed into the CSM for output to the TV. They filter out the undesirable low and high frequency signals in the speech output and also amplify the signal to a suitable level.

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### New Basic Commands

There are 6 new Basic Commands which control all the functions of the interface. Making the Synthesizer very easy to use. You can even choose from a high or low voice and individual allophones can be 'intoned' to add character. Or use the synthesizer to create voice like sound effects.

10 SAY HELLO

The above is an example of the Syntax for entering speech into the computer and shows how simple it is to use.

The instruction book gives comprehensive details and examples of how to use the interface both from machine code and basic.

### How to Order

The Currah Speech 64 costs only £29.95. You can obtain your synthesizer through any good computer store or by completing the order form and returning it to: dk'tronics Limited, Shire Hill, Saffron Walden, Essex, CB11, by telephone quoting your SaffronWalden or Access number. Orders normally despatched within 24 hours.

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To use **MUSIC MASTER** requires no prior musical knowledge: though in the hands of an experienced musician it will prove an invaluable tool. You don't need to know the first thing about programming either! **MUSIC MASTER** is the musical equivalent of a word processor — remembering the notes you play and allowing you to replay and edit them at your wish.

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Imagine if you will life in the 22nd century: space travel is commonplace and on the outskirts of the galaxy the first war between civilizations is being fought. A short age of a armed planet has prompted the Federation to develop a computer simulation that allows new recruits to gain experience with out paying for their mistakes with their lives. With the aid of your Commodore 64 you too can learn to pilot the inter-stellar 1413. But be warned — this is no game!

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